CLAIMS

1. A device for measuring the relative angular position of first and second bodies with respect to a point, comprising a first measuring element and a second measuring element, relatively movable with respect to one another and connectable to the first body and, respectively, the second body, wherein said first measuring element comprises a first inclination sensor, having a first detection axis and supplying a first inclination signal, correlated to a first angle of inclination of said first detection axis with respect to a reference axis, and said second measuring element comprises a second inclination sensor, having a second detection axis and supplying a second inclination signal, correlated to a second angle of inclination of said second detection axis with respect to said reference axis.

2. The device according to claim 1 wherein said first and second inclination sensors comprise a first inertial sensor and, respectively, a second inertial sensor.

3. The device according to claim 1 wherein said first and second inertial sensors are capacitive-unbalancing micro-electro-mechanical sensors.

4. The device according to the claim 3 wherein said first and second inertial sensors are linear micro-electro-mechanical sensors.

5. The device according to claim 1, further comprising a processing unit, connected to said first and second inclination sensors for receiving said first and second inclination signals, and supplying a value of an angle between said first and second bodies with respect to a pre-determined center.

6. The device according to claim 5 wherein said processing unit comprises a first processing line and a second processing line, which are connected to said first inertial sensor and to said second inertial sensor, respectively, for receiving said first inclination signal and said second inclination signal, respectively, and has outputs supplying values of said first angle of inclination and said second angle of inclination, respectively.

7. The device according to claim 6 wherein said first processing line and said second processing line comprise respective filtering circuits.

8. An articular prosthesis, comprising:

a hinge;

an artificial first skeletal member; and

an artificial second skeletal member connected to the first skeletal member by the hinge, and

a device for for determining the relative angular position of said first and second skeletal members with respect to said hinge, the device including a first measuring element and a second measuring element, relatively movable with respect to one another and connectable to the first skeletal member and, respectively, the second skeletal member, wherein said first measuring element comprises a first inclination sensor, having a first detection axis and supplying a first inclination signal, correlated to a first angle of inclination of said first detection axis with respect to a reference axis, and said second measuring element comprises a second inclination sensor, having a second detection axis and supplying a second inclination signal, correlated to a second angle of inclination of said second detection axis with respect to said reference axis.

9. The prosthesis according to claim 8 wherein said first inertial sensor is fixedly connected to said first skeletal member, and said second inertial sensor is fixedly connected to said second skeletal member.

10. The prosthesis according to claim 8 wherein said first and second axes of detection are basically coplanar.

11. The prosthesis according to claim 8, further comprising an actuator, which supplies a torque acting between said first and second skeletal members.

12. The prosthesis according to claim 11, further comprising a control unit associated to said actuator for controlling said actuator on the basis of said first and second inclination signals.

13. A device for articulating a first body with respect to a second body, comprising:

a first measuring element and a second measuring element, relatively movable with respect to one another and connected respectively to the first body and the second body, wherein the first measuring element comprises a first inclination sensor, having a first detection axis and supplying a first inclination signal, correlated to a first angle of inclination of the first detection axis with respect to a reference axis, and the second measuring element comprises a second inclination sensor, having a second detection axis and supplying a second inclination signal, correlated to a second angle of inclination of the second detection axis with respect to the reference axis;

a processor connected to the first and second measuring elements to receive the first and second inclination signals, the processor being structured to provide a control signal that reflects relative positions of the first and second bodies with respect to one another; and

an actuator structurally connected to the first and second bodies and coupled to the processor, the actuator being structured to move one of the bodies with respect to the other body based on the control signal.

14. The device according to claim 13 wherein the first and second inclination sensors comprise a first inertial sensor and a second inertial sensor, respectively.

15. The device according to claim 13 wherein the first and second inertial sensors are capacitive-unbalancing micro-electro-mechanical sensors.

16. The device according to the claim 15 wherein the first and second inertial sensors are linear micro-electro-mechanical sensors.

17. The device according to claim 13, wherein the control signal supplied by the processor includes a value of an angle between the first and second bodies with respect to a pre-determined center.

18. The device according to claim 13 wherein the processor comprises a first processing line and a second processing line connected to the first inertial sensor and to the second inertial sensor, respectively, for receiving the first inclination signal and the second inclination signal, respectively, and has outputs supplying values of the first angle of inclination and the second angle of inclination, respectively.

19. The device according to claim 18 wherein the first processing line and the second processing line comprise respective filtering circuits.

20. The device according to claim 13 wherein the processor includes:

a processing unit that receives the first and second inclination signals and outputs a value of an angle between the first and second bodies with respect to a pre-determined center; and

a controller connected between the processing unit and the actuator, the controller being structured to produce the control signal based on the value of the angle received from the processing unit.